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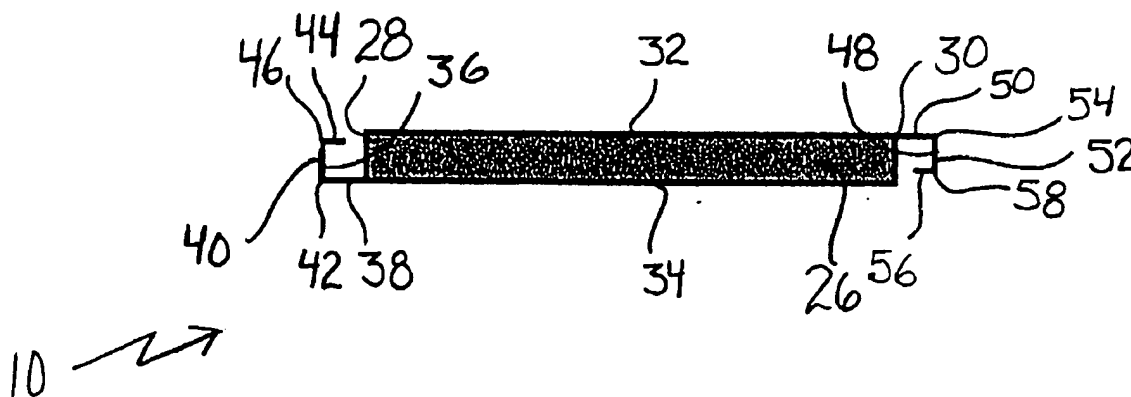
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(54) Title: ROAD MATS



(57) Abrégé/Abstract:

A road mat includes a body having a first end, a second end, a first face and a second face. A first coupling is positioned at the first end has an outwardly extending portion extending outwardly from the first end adjacent to the second face, an angled portion extending from a remote end of the outwardly extending portion toward but not past the first face, and an inwardly extending retaining lip extending from a remote end of the angled portion back toward the first end. A second coupling is positioned at the second end is similarly configured with an outwardly extending portion extending outwardly from the second end adjacent to the first face, an angled portion and an inwardly extending retaining lip. The retaining lip of the second coupling engages the retaining lip of the first coupling preventing separation.



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ABSTRACT OF THE DISCLOSURE

A road mat includes a body having a first end, a second end, a first face and a second face. A first coupling is positioned at the first end has an outwardly extending portion extending outwardly from the first end adjacent to the second face, an angled portion extending from a remote end of the outwardly extending portion toward but not past the first face, and an inwardly extending retaining lip extending from a remote end of the angled portion back toward the first end. A second coupling is positioned at the second end is similarly configured with an outwardly extending portion extending outwardly from the second end adjacent to the first face, an angled portion and an inwardly extending retaining lip. The retaining lip of the second coupling engages the retaining lip of the first coupling preventing separation.

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TITLE OF THE INVENTION:

Road Mats

FIELD OF THE INVENTION

5 The present invention relates to a road mat

BACKGROUND OF THE INVENTION

10 Road mats are designed to be laid onto a ground surface in end to end relation and driven over by motor vehicles. They formerly were used only where the ground surface was incapable of supporting the weight of a motor vehicle, such as in mud, swamp or muskeg. They are now also used in environmentally sensitive areas in order to reduce environmental damage.

15 It is important that the road mats do not shift after installation. Otherwise gaps occur and the road mats must constantly be realigned. In order to reduce movement, road mats are commonly manufactured mating engagements at either end. One such form of engagement is a first "L" shaped
20 appendage extending outwardly and upwardly from a first end and a second "L" shaped appendage extending outwardly and downwardly from a second end of each mat. The engagement of the first "L" shaped appendage with the second "L" shaped
25 appendage prevents axial movement. This engagement works effectively when the underlying surface is firm. However, when the underlying surface is soft, spongy or uneven, the engagement is not effective. On such surfaces the road mats tend to tip up when weight is exerted upon one end. This
30 tipping movement is encountered both as a motor vehicle first drives onto one of the road mats and as the motor vehicle drives off the road mat. When subjected to this tipping movement, the road mats tend to separate.

SUMMARY OF THE INVENTION

35 What is required is a road mat with a more secure locking engagement that will not separate even when subjected to tipping caused by uneven load distribution on soft, spongy or

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uneven ground surfaces.

According to the present invention there is provided a road mat which includes a body having a first end, a second
5 end, a first face and a second face. A first coupling is positioned at the first end. The first coupling has an outwardly extending portion extending outwardly from the first end adjacent to the second face, an angled portion extending
10 from a remote end of the outwardly extending portion toward but not past the first face, and an inwardly extending retaining lip extending from a remote end of the angled portion back toward the first end. A second coupling is positioned at the second end. The second coupling has an outwardly extending
15 portion extending outwardly from the second end adjacent to the first face, an angled portion extending from a remote end of the outwardly extending portion toward but not past the second face, and an inwardly extending retaining lip extending from a remote end of the angled portion back toward the second end. The second coupling is adapted to engage the first coupling of
20 an adjacent body. The retaining lip of the second coupling engages the retaining lip of the first coupling preventing separation.

The road mat, as described above, when interlocked to form
25 a road is less susceptible to separation as weight from a vehicle is transferred along the road from one road mat to an adjacent road mat. The retaining lip of the second coupling engages the retaining lip of the first coupling to ensure that separation does not occur.

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BRIEF DESCRIPTION OF THE DRAWINGS

These and other features of the invention will become more apparent from the following description in which reference is
35 made to the appended drawings, the drawings are for the purpose of illustration only and are not intended to in any way limit the scope of the invention to the particular embodiment or

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embodiments shown, wherein:

FIGURE 1 is a side elevation view of a road mat constructed in accordance with the teachings of the present invention.

5 **FIGURE 2** is a side elevation view of the road mat illustrated in **FIGURE 1**, when subjected to uneven loading.

FIGURE 3 labelled as **PRIOR ART** is a side elevation view of a road mat constructed in accordance with teachings known in the art.

10 **FIGURE 4** is a side elevation view of the road mat illustrated in **FIGURE 3**, when subjected to uneven loading.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The preferred embodiment, a road mat generally identified
15 by reference numeral 10, will now be described with reference to **FIGURES 1** and 2. **FIGURES 3** and 4 will be used to describe the shortcomings in the prior art which gave rise to the present invention.

20 Review of the Prior Art:

Referring to **FIGURE 3**, there is provided a mat 10 with a first "L" shaped appendage 12 extending outwardly and upwardly from a first end 14 and a second "L" shaped appendage 16 extending outwardly and downwardly from a second end 18 of mat
25 10. Referring to **FIGURE 4**, the engagement of first "L" shaped appendage 12 of mat 10 with second "L" shaped appendage 16 of adjacent mat 20 prevents axial movement. This engagement works effectively when an underlying surface 22 is firm. However, when underlying surface 22 is soft, spongy or uneven, the
30 engagement is not effective. On such surfaces 22, road mats 10 tend to tip up when weight is exerted upon first end 14. This tipping movement is encountered both as a motor vehicle 24 first drives onto road mat 10 and as motor vehicle 24 drives off road mat 10. When subjected to this tipping movement, road
35 mat 10 and adjacent road mat 20 tend to separate.

Structure and Relationship of Parts:

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Referring to **FIGURE 1**, there is provided a road mat 10 that includes a body 26 with a first end 28, a second end 30, a first face 32 and a second face 34. A first coupling 36 is provided at first end 28. First coupling 36 has an outwardly
5 extending portion 38 that extends outwardly from first end 28 adjacent to second face 34, an angled portion 40 that extends from a remote end 42 of outwardly extending portion 38 toward but not past first face 32, and an inwardly extending retaining lip 44 that extends from a remote end 46 of angled portion 40
10 back toward first end 28.

A second coupling 48 is provided at second end 30 of road mat 10. Second coupling 48 has an outwardly extending portion 50 that extends outwardly from second end 30 adjacent to first face 32, an angled portion 52 extending from a remote end 54
15 of outwardly extending portion 50 toward but not past second face 34, and an inwardly extending retaining lip 56 extending from a remote end 58 of angled portion 52 back toward second end 30.

Referring to **FIGURE 2**, second coupling 48 is adapted to
20 engage first coupling 36 of an adjacent body 60 with retaining lip 56 of second coupling 48 engaging retaining lip 44 of first coupling 36 to prevent separation.

25 Operation:

The use and operation of road mats 10 will now be described with reference to **FIGURES 1** through **4**. Referring to **FIGURE 2**, road mats 10 are designed to be laid on ground surface 22 in end to end relation and driven over by motor
30 vehicle 24. Mats 10 are secured together by interlocking second coupling 48 of road mat 10 with first coupling 36 of adjacent mat 60. Second coupling 48 is adapted to engage first coupling 36 of adjacent body 60 such that retaining lip 56 of second coupling 48 engages retaining lip 44 of first coupling
35 36 to prevent separation.

As motor vehicle 24 first drives onto road mat 10 and as motor vehicle 24 drives off road mat 10, the weight of vehicle

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24 will cause a tipping movement to occur. When subjected to this tipping movement, second end 30 of road mat 10 will rise slightly and drawing with it first end 28 of adjacent road mat 60. Road mat 10 will not separate from adjacent road mat 60 as
5 retaining lip 56 of second coupling 48 engages retaining lip 44 of first coupling 36 to prevent separation thereby transferring weight from vehicle 24 from road mat 10 to each adjacent road mat 60.

10 In this patent document, the word "comprising" is used in its non-limiting sense to mean that items following the word are included, but items not specifically mentioned are not excluded. A reference to an element by the indefinite article
15 "a" does not exclude the possibility that more than one of the element is present, unless the context clearly requires that there be one and only one of the elements.

It will be apparent to one skilled in the art that modifications may be made to the illustrated embodiment without
20 departing from the spirit and scope of the invention as hereinafter defined in the Claims.

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

- 5 1. A road mat, comprising:
- a body having a first end, a second end, a first face and a second face;
- a first coupling at the first end, the first coupling having an outwardly extending portion extending outwardly from
- 10 the first end adjacent to the second face, an angled portion extending from a remote end of the outwardly extending portion toward but not past the first face, and an inwardly extending retaining lip extending from a remote end of the angled portion back toward the first end;
- 15 a second coupling at the second end, the second coupling having an outwardly extending portion extending outwardly from the second end adjacent to the first face, an angled portion extending from a remote end of the outwardly extending portion toward but not past the second face, and an inwardly extending
- 20 retaining lip extending from a remote end of the angled portion back toward the second end; and
- the second coupling being adapted to engage the first coupling of an adjacent body with the retaining lip of the second coupling engaging the retaining lip of the first
- 25 coupling preventing separation.

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